

REMARKS

This Application has been carefully reviewed in light of the Office Action mailed October 3, 2005. At the time of the Office Action, Claims 1, 3-9, 11-18, 20-25, and 45-48 were pending in the Application. The Examiner rejected Claims 1, 3-9, 11-18, 20-25, and 45-48. Applicant respectfully requests reconsideration and favorable action in this case.

Section 103 Rejections

Claims 1, 3-5, 7, 9, 11, 12, 13, 18, 20, 21, 24, 45, 47, and 48 were rejected under 35 U.S.C. § 103(a), as being unpatentable over U.S. Patent No. 5,710,591 issued to Bruno et al. ("*Bruno*"), in view of Cohen et al., "Virtual Gain for Audio Windows," IEEE 1993 ("*Cohen*"). Applicant respectfully traverses these rejections for the reasons stated below.

In order to establish a *prima facie* case of obviousness of a claimed invention, all claim limitations must be taught or proposed by the prior art. *In re Royka*, 490 F.2d 981 (CCPA 1974). Applicant respectfully submits that each and every element of Claims 1, 3-5, 7, 9, 11, 12, 13, 18, 20, 21, 24, 45, 47, and 48 is not found within the references cited by the Examiner.

Claim 1 recites:

An audio conference server comprising:
managing means operable to manage at least one audio conference among a plurality of audio clients;
receiving means operable to receive audio data from the plurality of audio clients;
mixing means operable to mix the audio data into spatialized audio data; and
delivery means operable to deliver the spatialized audio data to the plurality of audio clients;
wherein the mixing means includes attenuation means operable to provide distance-based attenuation according to a plurality of predetermined sound decay characteristics, each sound decay characteristic being associated with a respective audio client and a respective volume/distance relationship.

Applicant respectfully submits that the *Bruno-Cohen* combination proposed by the Examiner fails to teach, suggest, or disclose each of these elements. For example, the *Bruno-Cohen* combination fails to teach, suggest, or disclose "attenuation means operable to provide distance-based attenuation according to a plurality of predetermined sound decay characteristics, each sound decay characteristic being associated with a respective volume/distance relationship." (emphasis added) Instead, the portion of *Cohen* relied upon

by the Examiner as disclosing such attenuation means actually discloses a single distance-dependent gain (*i.e.*, volume) function chosen to achieve a predetermined falloff. *See Cohen*, § 1.2. The Examiner argues that since *Cohen*'s "virtual gain is calculated by the effects of the distance between source and sink" *Cohen* discloses a plurality of sound decay characteristics. Office Action, p. 9. The Examiner, however, misinterprets *Cohen*. *Cohen* merely discloses that the disclosed gain function is dependent on the distance between the source and the sink. This means that the multiple sources may be located at different points along the same gradually-decaying gain curve. This does not mean that *Cohen* teaches, suggests, or discloses "a plurality of predetermined sound decay characteristics" or that each of these predetermined sound decay characteristics are "associated with a respective volume/distance relationship." Because of this, the *Bruno-Cohen* combination proposed by the Examiner fails to teach, suggest, or disclose each and every element of Claim 1. For at least this reason, the rejection of Claim 1 is improper. Therefore, Applicant respectfully requests that the rejection of Claim 1 be withdrawn.

Similar to Claim 1, Claims 9, 18, 45, and 47 each recite "distance-based attenuation according to a plurality of predetermined sound decay characteristics, each sound decay characteristic being associated with a respective audio client and a respective volume/distance relationship." Therefore, for reasons similar to those discussed above with regard to Claim 1, Applicant respectfully submits that the rejections of Claims 9, 18, 45, and 47 are also improper. As such, Applicant respectfully requests that the rejections of Claims 9, 18, 45, and 47 be withdrawn.

Claims 3-5, 11-13, 20, and 21 each depend, either directly or indirectly, from Claims 1, 9, and 18. Therefore, Applicant submits that Claims 3-5, 11-13, 20, and 21 are allowable, for example, for reasons similar to those discussed above with regard to Claims 1, 9, and 18. Applicant respectfully requests that the rejections of Claims 3-5, 11-13, 20, and 21 be withdrawn.

Claim 7 recites:

An audio conference server comprising:
managing means operable to manage at least one audio
conference among a plurality of audio clients;
receiving means operable to receive audio data from the
plurality of audio clients;
mixing means operable to mix the audio data into
spatialized audio data; and
delivery means operable to deliver the spatialized audio
data to the plurality of audio clients;
wherein the mixing means includes attenuation means

operable to provide distance-based attenuation according to a plurality of predetermined sound decay characteristics, the attenuation means comprising:

- means for identifying a decay factor from one of a plurality of pre-defined decay factors and a customized decay factor for each of the plurality of audio clients, the plurality of pre-defined decay factors including an audio big decay factor, an audio small decay factor, an audio medium decay factor, and a constant decay factor;

- means for determining distances between a target audio client and a plurality of source audio clients;

- means for determining a plurality of weighted values for each of the source audio clients based on the identified decay factor and the distance between each of the source audio clients and the target audio client, wherein each of the weighted values corresponds to a source/target audio client pair;

- means for generating a mix table for each of the source/target audio client pairs;

- means for calculating an actual mix for the target audio clients; and

- means for refining the actual mix for the target audio clients.

Applicant respectfully submits that the *Bruno-Cohen* combination proposed by the Examiner also fails to teach, suggest, or disclose each element of Claim 7. For example, the *Bruno-Cohen* combination fails to teach, suggest, or disclose a “plurality of pre-defined decay factors including an audio big decay factor, an audio small decay factor, an audio medium decay factor, and a constant decay factor.” (emphasis added) Contrary to the Examiner’s contention, *Cohen* does not inherently disclose this plurality of decay factors. Office Action, p. 5. Instead, the portion of *Cohen* relied upon by the Examiner actually discloses a single distance-dependent gain function. See *Cohen*, § 1.2; fig 3. In support of the rejection, the Examiner argues that since *Cohen*’s “[v]irtual gain is calculated by the effects of the distance between source and sink,” *Cohen* inherently discloses the recited decay factors. Office Action, p. 9. However, the Examiner again misinterprets *Cohen*. *Cohen* merely discloses that the single gain function is dependent on the distance between the source and the sink. This means that the multiple sources may be located at different points along the same gradually-decaying gain curve. This does not mean that *Cohen* teaches, suggests, or discloses “a plurality of predefined decay factors” as recited in Claim 7. For at least this reason, the rejection of Claim 7 is improper. Therefore, Applicant respectfully requests that the rejection of Claim 7 be withdrawn. Should the Examiner persist in maintaining this rejection, Applicant respectfully requests that the Examiner explicitly

illustrate how each of the recited decay factors are supposedly disclosed by the single decay function illustrated in Fig. 3 of *Cohen*.

Similar to Claim 7, Claims 24 and 48 also recite a “plurality of pre-defined decay factors including an audio big decay factor, an audio small decay factor, an audio medium decay factor, and a constant decay factor.” Therefore, for reasons similar to those discussed above with regard to Claim 7, Applicant respectfully submits that the rejections of Claims 24 and 48 are improper. As such, Applicant respectfully requests that the rejections of Claims 24 and 48 be withdrawn.

Claims 6, 14-16, and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Bruno* and *Cohen* and further in view of U.S. Patent No. 5,764,750 issued to Chau et al. (“*Chau*”). Applicant respectfully traverses these rejections for the reasons stated below.

Claims 6, 14-16, and 23 each recite “distance-based attenuation according to a plurality of predetermined sound decay characteristics, each sound decay characteristic being associated with a respective audio client and a respective volume/distance relationship.” As discussed above with regard to Claims 1, 9, and 18, the *Cohen* reference relied upon by the Examiner fails to teach, suggest, or disclose this element. Therefore, Applicant submits that the rejections of Claims 6, 14-16, and 23 are improper. As such, Applicant respectfully requests that the rejections of Claims 6, 14-16, and 23 be withdrawn.

Claims 8, 17, 25 and 46 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Bruno* and *Cohen* and further in view of U.S. Patent No. 5,864,816 issued to Everett (“*Everett*”). Applicant respectfully traverses these rejections for the reasons stated below.

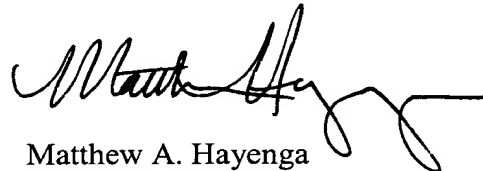
Claims 8, 17, 25, and 46 each recite a “plurality of pre-defined decay factors including an audio big decay factor, an audio small decay factor, an audio medium decay factor, and a constant decay factor.” As discussed above with regard to Claims 7, 24, and 48, the *Cohen* reference relied upon by the Examiner fails to teach, suggest, or disclose this element. Therefore, Applicant submits that the rejections of Claims 8, 17, 25, and 46 are improper. As such, Applicant respectfully requests that the rejections of Claims 8, 17, 25, and 46 be withdrawn.

CONCLUSION

Applicant respectfully submits that this Application is in condition for allowance. For at least the foregoing reasons, Applicant respectfully requests full allowance of all pending claims. If the Examiner feels that a telephone conference would advance prosecution of this Application in any manner, the undersigned attorney for Applicant stands ready to conduct such a conference at the convenience of the Examiner.

Applicant believes no other fees are currently due. However, should there be a fee discrepancy, the Commissioner is hereby authorized to charge said fees or credit any overpayments to Deposit Account No. 02-0384 of BAKER BOTTS L.L.P.

Respectfully submitted,
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